

310 CMR 7.00: APPENDIX A: EMISSION OFFSETS AND NONATTAINMENT REVIEW

(1) Introduction. 310 CMR 7.00: *Appendix A* sets forth the Massachusetts preconstruction review program for stationary sources of air pollution (not including indirect sources) pursuant to sections 172(c)(5) and 173 of the Clean Air Act. A new major source or major modification located in an area designated as nonattainment pursuant to section 107(d) of the Act, published at 40 CFR 81, for any National Ambient Air Quality Standards (NAAQS) for which the source or modification would be major must meet the stringent conditions set forth in this appendix prior to receiving approval to construct. These conditions are designed to insure that the increased emissions will be controlled to the greatest degree possible; that more than equivalent offsetting emission reductions (emission offsets) will be obtained from existing sources; and that there will be reasonable further progress toward achievement of the National Ambient Air Quality Standards (NAAQS).

(2) Definitions. The definitions found in 310 CMR 7.00 apply to Appendix A. The following words and phrases shall have the following meanings as they appear in 310 CMR 7.00: *Appendix A*. Where a term is defined in the 310 CMR 7.00 definitions section and the definition also appears in 310 CMR 7.00: *Appendix A* definition section, the definition in Appendix A controls.

Actual Emissions means:

- (a) As of a particular date, actual emissions shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal source operation. The Department shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period. For the purposes of calculating a net emissions increase where actual emissions exceed allowable emissions, the actual emissions for the unit will be presumed to be equivalent to the source-specific allowable emissions of the unit.
- (b) For either an electric utility steam generating unit (other than a new unit or the replacement of an existing unit) or an emissions unit(s) complying with 310 CMR 7.18, 7.19 or 7.24, actual emissions of the unit following the physical or operational change shall equal the representative actual annual emissions of the unit, provided the source owner or operator maintains and submits to the Department, on an annual basis for a period of five years from the date the unit resumes regular operation, information demonstrating that the physical or operational change did not result in an emissions increase. A longer period, not to exceed ten years, may be required by the Department if it determines such period to be more representative of normal source post-change operations.
- (c) For any emissions unit (except as provided for in 310 CMR 7.00: *Appendix A* Actual Emissions(b)) which has not begun normal operations on the particular date, actual emissions shall equal the federal potential emissions of the unit on that date.

Allowable Emissions means the emissions rate, in tons per year, of a stationary source calculated by multiplying the maximum rated capacity of the source (unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both) times the most stringent of:

- (a) Any applicable standards set forth in 40 CFR part 60 (NSPS) or 61 (NESHAPS);
- (b) Any applicable Massachusetts SIP emissions limitation including a limitation with a future compliance date; or
- (c) Any emissions rate specified as a federally enforceable permit condition, including a limitation with a future compliance date.

Begin Actual Construction means physical on-site construction activities on an emissions unit which is of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect to a change in method of operation, this term refers to those on-site activities other than preparatory activities which mark the initiation of the change.

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Building, Structure, Facility, or Installation means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Any marine vessel is a part of a facility while docked at the facility. Any marine vessel is a part of an Outer Continental Shelf (OCS) source while docked at and within 25 miles en route to and from the OCS source. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same Major Group (*i.e.*, which have the same two-digit code) as described in the *Standard Industrial Classification Manual*, 1987.

Clean Coal Technology (CCT) means any technology at a new or existing emissions unit(s), including technologies applied at the precombustion, combustion, or post combustion stage, which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, or process steam which was not in widespread use as of November 15, 1990.

Clean Coal Technology Demonstration Project means a project using funds appropriated under the heading 'Department of Energy-Clean Coal Technology,' up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the United States Environmental Protection Agency (EPA). The Federal contribution for a qualifying project shall be at least 20% of the total cost of the demonstration project.

Coastal Waters means tidal waters over permanently or periodically submerged lands lying between the mean high tide line and a line seaward from the coastline to the boundary line of each State. The boundary shall extend no more than three geographical miles into the Atlantic Ocean.

Commence means as applied to construction of a major stationary source or major modification that the owner or operator has all necessary preconstruction approvals or permits and either has:

- (a) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or,
- (b) Entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.

Complete means, in reference to an application for a plan approval, that the application contains all of the information necessary for processing the application, as determined by the Department. Designating an application administratively complete for purposes of permit processing does not preclude the Department from requesting or accepting any additional information.

Construction means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) which would result in an increase in actual emissions.

Corresponding Onshore Area means, for stationary sources located in, or on, navigable rivers and lakes, coastal waters, or the Outer Continental Shelf (OCS), the onshore attainment or nonattainment area which is closest to the source. However, the Department or EPA may determine that another area with more stringent requirements with respect to the control and abatement of air pollution may reasonably be expected to be affected by such emissions. Such determination shall be based on the potential for air pollutants from the offshore source to reach the other onshore area and the potential of such air pollutants to affect the efforts of the other onshore area to attain or maintain any Federal or State ambient air quality standard or to comply with the provisions of 310 CMR 7.00: *Appendix A*.

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Electric Utility Steam Generating Unit means any steam electric generating unit that is constructed for the purpose of supplying more than a of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

Emissions Unit means any part of a stationary source, which emits or would have federal potential emissions of any pollutant (including fugitive emissions), subject to regulation under the Act.

Energy Input means the total gross calorific value (where gross calorific value is measured by ASTM Method D2015-66, D240-64, or D1826-64) of all fuels burned. Energy input is calculated in British thermal units (Btu) per hour using the higher heating value of the fuel.

Fossil Fuel-Fired Boiler means a unit (or combination of such units) which combusts fossil fuel (or receives energy from other fossil fuel-fired units) to produce steam by indirect heat transfer and includes such units that produce steam for electric generation. The energy input for such units includes any energy provided to such units from the combustion of fossil fuels in other units. The total energy input from fossil fuel-firing for a combination of such units is the sum of the energy inputs from fossil fuel-firing for each unit.

Fossil Fuel-Fired Electric Plant means one or more units (a plant) that combust fossil fuel to produce electricity. The total energy input for such a plant from fossil fuel-firing is the sum of the energy inputs from fossil fuel-firing for each combustion unit that is part of such plant.

Fugitive Emissions means those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

Indian Governing Body means the governing body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government.

Indian Tribe means any Indian tribe, band, nation, or other organized group or community which is Federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

Lowest Achievable Emission Rate (LAER) means, for any source, the more stringent rate of emissions based on the following:

- (a) The most stringent emissions limitation which is contained in any state SIP for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or
- (b) The most stringent emissions limitation which is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within a stationary source.

In no event shall LAER allow a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable pursuant to applicable new source standards of performance.

Major Modification means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant, for which the existing source is major, subject to regulation under the Act.

- (a) Any net emissions increase that is considered significant for VOCs shall be considered significant for ozone; and
- (b) For the purpose of applying the requirements of 310 CMR 7.00: *Appendix A* to major stationary sources of NO<sub>x</sub> located in ozone nonattainment areas, any significant net emissions increase of NO<sub>x</sub> is considered significant for ozone, in addition to any separate requirements for NO<sub>x</sub> under part C or D of Title I of the Act; and

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- (c) A physical change or change in the method of operation shall not include:
1. Routine maintenance, repair and replacement; or
  2. Use of an alternative fuel or raw material by reason of an order under sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act; or
  3. Use of an alternative fuel by reason of an order or rule under sec. 125 [Measures to Prevent Economic Disruption or Unemployment] of the Act; or
  4. Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste; or
  5. Use of an alternative fuel or raw material by a stationary source where:
    - a. The source is approved to use such fuel or raw material under any plan approval issued under 310 CMR 7.00: *Appendix A*; or
    - b. The source was capable of accommodating such fuel or raw material before December 21, 1976, unless such change would be prohibited under any federally-enforceable permit condition which was established after December 21, 1976 pursuant to 40 CFR part 52.21 (Prevention of significant deterioration of air quality), plan approval requirements under 310 CMR 7.02(2), 310 CMR 7.00: *Appendix A*, 310 CMR 7.00: *Appendix B*(3), operating permits issued either under 310 CMR 7.00: *Appendix C* or pursuant to 40 CFR part 71 or prohibited under any other federally-enforceable regulatory requirements; or
  6. An increase in the hours of operation or in the production rate, unless such change is prohibited under any federally-enforceable permit condition which was established after December 21, 1976 pursuant to 40 CFR 52.21 (Prevention of significant deterioration of air quality), plan approval requirements under 310 CMR 7.02(2), 310 CMR 7.00: *Appendix A*, 310 CMR 7.00: *Appendix B*(3), operating permits issued either under 310 CMR 7.00: *Appendix C* or pursuant to 40 CFR part 71 or prohibited under any other federally-enforceable regulatory requirements; or
  7. Any change in ownership at a stationary source; or
  8. The addition, replacement or use of a pollution control project at either an existing electric utility steam generating unit or an emissions unit(s) in order to comply with 310 CMR 7.18, 7.19 or 7.24, unless the Department determines that such addition, replacement, or use renders the unit less environmentally beneficial; or unless
    - a. The Department has reason to believe that the pollution control project would result in a significant net increase in representative actual annual emissions of any criteria pollutant over levels used for that source in the most recent air quality impact analysis in the area conducted for the purpose of Title I of the Act, if any; and
    - b. The Department determines that the increase will cause or contribute to a violation of any national ambient air quality standard or PSD increment, or visibility limitation; or
  9. The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:
    - a. the Massachusetts SIP, and
    - b. other requirements necessary to attain and maintain the national ambient air quality standard during the project and after it is terminated.

Major Stationary Source means any stationary source of air pollutants which emits, or has the federal potential emissions greater than or equal to, 100 tpy or more of any pollutant subject to regulation under the Act, except that lower emissions thresholds shall apply as follows:

50 TPY of volatile organic compounds (VOC), or

50 TPY of oxides of nitrogen (NO<sub>x</sub>).

In addition, any physical change that would occur at a stationary source not previously qualifying as a major stationary source will be considered a major stationary source, if the physical change would result in the following increases either in actual emissions or in the federal potential to emit, greater than or equal to:

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50 TPY of volatile organic compounds (VOC), or

50 TPY of oxides of nitrogen (NO<sub>x</sub>), or

100 TPY or more of any other pollutant subject to regulation under the Act.

(a) A stationary source that is major for VOC shall be considered major for ozone. VOC emissions, as precursors to the pollutant ozone, are subject to the requirements of 310 CMR 7.00: *Appendix A*; and

(b) For the purpose of applying the requirements of 310 CMR 7.00: *Appendix A* to major stationary sources of NO<sub>x</sub> located in ozone nonattainment areas, a stationary source that is major for NO<sub>x</sub> is considered major for ozone, in addition to any separate requirements for NO<sub>x</sub> under part C or D of Title I of the Act; and

(c) The fugitive emissions of a stationary source shall not be included in determining, for any of the purposes of 310 CMR 7.00: *Appendix A*, whether the stationary source is a major stationary source, unless the stationary source belongs to one of the following categories of stationary sources:

Carbon black plants (furnace process); or

Coal cleaning plants (with thermal dryers); or

Coke oven batteries; or

Charcoal production plants; or

Chemical process plants; or

Fuel conversion plants; or

Fossil fuel-fired boilers (or combination thereof)

totaling more than 250 million British thermal units per hour heat input; or

Fossil fuel-fired electric plants of more than 250 million British thermal units per hour heat input; or

Glass fiber manufacturing plants; or

Hydrofluoric acid plants; or

Iron and steel mills; or

Kraft pulp mills; or

Lime plants; or

Municipal incinerators (or combinations thereof) capable of charging more than 50 tons of refuse per day; or

Nitric acid plants; or

Outer continental shelf sources; or

Petroleum refineries; or

Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels; or

Phosphate rock processing plants; or

Portland cement plants; or

Primary aluminum ore reduction plants; or

Primary copper smelters; or

Primary lead smelters; or

Primary zinc smelters; or

Secondary metal production plants; or

Sintering plants; or

Sulfuric acid plants; or

Sulfur recovery plants; or

Taconite ore processing plants; or

Any other stationary source category regulated under sec. 111 (NSPS) or 112 (NESHAPS) of the Act before November 15, 1990.

Navigable Rivers and Lakes means non-tidal bodies of water which were navigable at the time the States in which they are located became members of the United States. This term does not include waters over lands now or heretofore constituting a part of the public lands of the United States, if such lands were not meandered in connection with the public survey of such lands under the laws of the United States and title to such lands was lawfully conveyed from the United States or any State to any person.

Necessary Preconstruction Approvals or Permits means those permits or plan approvals required under Federal air quality control laws and regulations, and those air quality control laws and

regulations which are part of the Massachusetts State Implementation Plan.

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Net Emissions Increase means

- (a) The amount by which the sum of the following exceeds zero:
  - 1. Any increase in actual emissions from a particular physical change or change in the method of operation at a stationary source; and
  - 2. Any other increases and decreases in actual emissions at the source shall be included for netting purposes, that are contemporaneous with the particular change and are otherwise creditable as described in 310 CMR 7.00: *Appendix A* Net Emissions Increase(b), (c), (d), (e) and (f).
- (b) An increase or decrease is contemporaneous with the particular change only if it occurs over any period of five consecutive calendar years which includes the calendar year the increase will occur, but not earlier than January 1, 1990.
- (c) An increase or decrease in actual emissions must have occurred prior to the increase from the particular change in order for the increase or decrease to be considered contemporaneous for purposes of calculating a net emissions increase.
- (d) An increase or decrease in actual emissions is creditable only if the increase or decrease in actual emissions has not been credited in a previous plan approval issued under 310 CMR 7.00: *Appendix A*, unless that approval has been rescinded.
- (e) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
- (f) A decrease in actual emissions is creditable only to the extent that:
  - 1. The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions; and
  - 2. It is federally-enforceable at and after the time that actual construction on the particular change begins; and
  - 3. The reduction was not required as a condition of the Massachusetts SIP, in demonstrating attainment or reasonable further progress, in issuing any permit or plan approval under 310 CMR 7.00: *Appendix A*, 310 CMR 7.02(2)(BACT requirement), 40 CFR 52.21 (PSD), operating permits issued either under 310 CMR 7.00: *Appendix C* or 40 CFR part 71 or otherwise required under the Act ; and
  - 4. For VOC emissions, the decreased emissions have approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change; and
  - 5. The unit was actually operated 1 or more years and emitted the nonattainment pollutant for which the decrease is being sought. Reductions of permitted emissions for units that were never operated cannot be considered creditable emissions decreases.
- (g) An emissions increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.
- (h) Emission reduction credits (ERCs) withdrawn from the Department's Emission Reduction Banking System are creditable if the ERCs meet the criteria in 310 CMR 7.00: *Appendix A* Net Emissions Increase(a) through (g).

Outer Continental Shelf (OCS) shall have the meaning provided, as of the date of promulgation of 310 CMR 7.00, by section 2 of the Outer Continental Shelf Lands Act (43 U.S.C. 1331 *et seq*).

Outer Continental Shelf Source means any equipment, activity, or facility which:

- (a) Emits or has federal potential emissions of any air pollutant; and
- (b) Is regulated or authorized under the Outer Continental Shelf Lands Act (43 U.S.C. 1331 *et seq*); and
- (c) Is located on the OCS or in or on the waters above the OCS.

Pollution Control Project means any activity or project at either an existing electric utility steam generating unit or at an emissions unit(s) to comply with 310 CMR 7.18, 7.19 or 7.24 for purposes of reducing emissions from such unit. Such activities or projects are limited to:

- (a) The installation of conventional or innovative pollution control technology, including but not limited to advanced flue gas desulfurization, sorbent injection for sulfur dioxide and nitrogen oxides controls and electrostatic precipitators; or

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- (b) an activity or project to accommodate switching to a fuel which is less polluting than the fuel used prior to the activity or project, including, but not limited to natural gas or coal re-burning, or the co-firing of natural gas and other fuels for the purpose of controlling emissions; or
- (c) a permanent clean coal technology demonstration project conducted under title II, sec. 101(d) of the Further Continuing Appropriations Act of 1985 (sec. 5903(d) of title 42 of the United States Code), or subsequent appropriations, up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the EPA; or
- (d) a permanent clean coal technology demonstration project that constitutes a repowering project ; or
- (e) an activity or project to reduce emissions of VOC or NO<sub>x</sub> to comply with 310 CMR 7.18, 7.19 or 7.24.

Reasonable Further Progress means such annual incremental reductions in emissions of the relevant air pollutant as are required by part D (Plan Requirements for Nonattainment Areas) of the Act or may reasonably be required by the Department or EPA for the purpose of ensuring attainment of the applicable national ambient air quality standards in an area by the applicable statutory deadline or resulting from shutdowns that are credited towards attainment.

Repowering means:

- (a) replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the EPA, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990 ; or
- (b) any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

Representative Actual Annual Emissions means the average rate, in tons per year, at which the source is projected to emit a pollutant for the two-year period after a physical change or change in the method of operation of a unit, (or a different consecutive two-year period within ten years after that change, where the Department determines that such period is more representative of normal source operations), considering the effect any such change will have on increasing or decreasing the hourly emissions rate and on projected capacity utilization. In projecting future emissions the Department:

- (a) shall consider all relevant information, including but not limited to historical operational data, the company's own representations, filings with Massachusetts Department of Public Utilities or Federal regulatory authorities, filings with the Department pursuant to 310 CMR 7.12, Department regulations and approvals issued pursuant to those regulations and compliance plans under title IV of the Clean Air Act; and
- (b) shall exclude, in calculating any increase in emissions that results from the particular physical change or change in the method of operation at an electric utility steam generating unit, that portion of the unit's emissions following the change that could have been accommodated during the representative baseline period and is attributable to an increase in projected capacity utilization at the unit that is unrelated to the particular change, including any increased utilization due to the rate of electricity demand growth for the utility system as a whole.

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Secondary Emissions means emissions which would occur as a result of the construction or operation of a major stationary source or major modification, which do not come from the major stationary source or major modification itself. For the purpose of 310 CMR 7.00: *Appendix A*, secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not otherwise be constructed or undergo an increase in emissions except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include tailpipe emissions from any source regulated under title II of the Act or any emissions from in-transit, non-OCS marine vessels.

Significant means

(a) In reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

| POLLUTANT EMISSION RATE |  |
|-------------------------|--|
| Carbon monoxide:        | 100 tpy  |
| Ozone:                  | 25 tpy of nitrogen oxides (NO <sub>x</sub> ) where an administratively complete application was received on or after November 15, 1992 for the physical change or change in the method of operation. |
| Ozone:                  | 40 tpy of VOC  |
|                         | 25 tpy of VOC where an administratively complete application was received on or after November 15, 1992 for the physical change or change in the method of operation.                                |
| Sulfur dioxide:         | 40 tpy   |
| Particulate matter:     | 15 tpy as PM10   |
| Lead:                   | 0.6 tpy  |

(b) A net increase in emissions of VOCs or NO<sub>x</sub> that would result from either any physical change in or change in the method of operation, of a stationary source is significant if such increase exceeds applicable thresholds when aggregated with all, creditable and contemporaneous, increases and decreases, in emissions of the same pollutant.

Stationary Source means any building, structure, facility, or installation which emits or which may emit any air pollutant subject to regulation under the Act.

- (a) A stationary source may consist of one or more emissions units and:
1. may be a land-based point or area source; or
  2. may be located in, or on, the OCS or other submerged lands beneath navigable waters (lakes, rivers, and coastal waters adjacent to Outer Continental Shelf lands) ; or
  3. may be any internal combustion engine, or engine combination, greater than 175 horsepower (hp) used for any stationary application; or
  4. may be any internal combustion engine regulated under Sec. 111 (NSPS) of the Act, regardless of size; or
  5. may be any internal combustion engine of less than 175 horsepower (hp) not actually controlled to meet a regulation under Sec. 213 (Nonroad Engines and Vehicles) of the Act.
- (b) A stationary source does not include:
1. emissions resulting directly from an internal combustion engine for transportation purposes; or
  2. tailpipe emissions from any source regulated under title II of the Act or any emissions from in-transit, non-OCS marine vessels.

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Temporary Clean Coal Technology Demonstration project means a CCT demonstration project that is operated for a period of five years or less, and which complies with the Massachusetts SIP and other requirements necessary to attain and maintain the national ambient air quality standard during the project and after it is terminated.

- (3) Applicability and exemptions. (see also 310 CMR 7.00: *Appendix A*(10) Source Obligation.)
- (a) Any major stationary source or major modification to which the requirements of 310 CMR 7.00: *Appendix A* apply shall not receive a plan approval to begin actual construction unless the Department is satisfied that the stationary source or modification will meet the requirements of 310 CMR 7.00: *Appendix A*.
  - (b) The requirements of 310 CMR 7.00: *Appendix A* shall apply only to any new major stationary source or major modification that is major for the pollutant (or precursor of the pollutant, as applicable. Non-attainment pollutant.), for which an area is designated nonattainment (as of the date on which a complete application is filed) pursuant to sec. 107(d) [Nonattainment Designations] of the Act if the stationary source or modification would be constructed anywhere in the designated nonattainment area.
  - (c) The requirements of 310 CMR 7.00: *Appendix A* shall apply in any Outer Continental Shelf area for which the corresponding onshore area is designated as nonattainment as of the date on which a complete application is filed in accordance with 310 CMR 7.00: *Appendix A*.
  - (d) If a stationary source is in one of the categories listed in the definition of 310 CMR 7.00: *Appendix A* Major Stationary Source(c), fugitive emissions, to the extent quantifiable, are included when calculating federal potential emissions to determine if the stationary source or modification is subject to the provisions of 310 CMR 7.00: *Appendix A*.
  - (e) In the case of any major stationary source of volatile organic compounds located in the area (other than a source which emits or has federal potential emissions of 100 tons or more of volatile organic compounds per year), whenever any physical change or change in the method of operation at that source results in any increase (other than a *de minimis* increase) in emissions of volatile organic compounds from any discrete operation, unit or other pollutant emitting activity at the source, such increase shall be considered a modification for purposes of 310 CMR 7.00: *Appendix A*, except that such increase shall not be considered a modification for such purposes if the owner or operator of the source elects to offset the increase by greater reduction in emissions of volatile organic compounds concerned from other operations, units, or activities within the source at an internal offset ratio of at least 1.3 to 1. If the owner or operator does not make such election, such change shall be considered a modification for such purposes, but in applying 310 CMR 7.00: *Appendix A*(4)(c) in the case of any such modification, the best available control technology (BACT), as defined in 310 CMR 7.00: DEFINITIONS, shall be substituted for the lowest achievable emission rate (LAER).
  - (f) In the case of any major stationary source of volatile organic compounds located in the area which emits or has federal potential emissions 100 tons or more of volatile organic compounds per year, whenever any physical change or change in the method of operation at that source results in any increase (other than a *de minimis* increase) in emissions of volatile organic compounds from any discrete operation, unit or other pollutant emitting activity at the source, such increase shall be considered a modification for purposes of 310 CMR 7.00: *Appendix A*, except that if the owner or operator of the source elects to offset the increase by a greater reduction in emissions of volatile organic compounds from other operations, units or activities within the source at an internal offset ratio of at least 1.3 to 1, the requirements of 310 CMR 7.00: *Appendix A*(4)(c) (concerning the lowest achievable emission rate (LAER) shall not apply.
  - (g) 310 CMR 7.00: *Appendix A*(3)(e) and (f) apply to modifications at major stationary sources of NO<sub>x</sub> in the same way that they apply to sources of volatile organic compounds.
- (4) Control technology review.
- (a) A new major stationary source or major modification at an existing major stationary source shall meet each applicable emissions limitation under the Massachusetts SIP and each applicable emissions standard of performance under 40 CFR parts 60 (NSPS) and 61 (NESHAPS).

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(b) A new major stationary source shall meet the lowest achievable emission rate (LAER) for each pollutant subject to the provisions of 310 CMR 7.00: *Appendix A* that would have federal potential emissions in major amounts. This provision applies to each new emissions unit at which emissions would occur. Major amounts are as follows:

1. VOC - 50 tons or more per year.
2. NO<sub>x</sub> - 50 tons or more per year.
3. 100 tons per year or more of any other pollutant subject to regulation under the Act.

(c) A major modification shall meet the lowest achievable emission rate (LAER) for each pollutant subject to the requirements of 310 CMR 7.00: *Appendix A* which would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of the physical change or change in the method of operation in the unit being proposed. LAER will not be required for previous modifications included in the determination of net emissions increase considered in determining major modification status, but which are not to be modified as part of the proposed project.

(d) For phased construction projects, the determination of the lowest achievable emission rate (LAER) shall be reviewed and modified as appropriate at the latest reasonable time, but no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the stationary source may be required to demonstrate the adequacy of any previous determination of the lowest achievable emission rate to the next phase of construction.

(5) Reasonable further progress.

(a) Sufficient offsetting emissions shall be in effect such that the total emissions from existing sources in the area, from new or modified sources which are not major stationary sources, and from the proposed source will be sufficiently less than the total emissions from existing sources prior to the application for such plan approval to construct or modify so as to represent (when considered together with the SIP provisions required under sec. 172 of the Act) reasonable further progress by the time the proposed source or modification is to commence operation; and

(b) for the purposes of satisfying the requirements of 310 CMR 7.00: *Appendix A*(5)(a), the determination of total emissions at both the time prior to the application for a plan approval subject to the requirements of 310 CMR 7.00: *Appendix A* and the time such permitted source or modification would commence operation, shall be made in a manner consistent with the Massachusetts SIP approved by the EPA concerning baseline emissions for the demonstration of reasonable further progress and attainment of the national ambient air quality standards for the particular pollutant subject to review pursuant to 310 CMR 7.00: *Appendix A*.

(6) Emissions offsets.

(a) Prior to the issuance of a plan approval for any emissions unit(s), for which offsets are required pursuant to 310 CMR 7.00: *Appendix A*, emission offsets must be made federally enforceable; and

(b) Prior to commencing operation of any emission unit(s) for which offsets are required under 310 CMR 7.00: *Appendix A*, emission offsets must actually occur and be obtained from the same source or other sources in the same nonattainment area, except that such emissions reductions may be obtained from a source in another nonattainment area if:

1. The other area has an equal or higher nonattainment classification than the area in which the source is located; and
2. Emissions from such other area contribute to a violation of a national ambient air quality standard in the nonattainment area in which the proposed new or modified source would construct.

(c) Emission offsets for a land-based stationary source may not be obtained from Outer Continental Shelf (OCS) sources. However, emission offsets for an OCS source may be obtained from land-based stationary sources.

## Appendix A: continued

- (d) The increase in emissions of any applicable nonattainment air pollutant allowed from either the proposed new major stationary source or from the proposed changes at the major stationary source that are part of the major modification, shall be offset by an equal or greater reduction, as applicable, in the actual emissions of such air pollutant from the same or other sources.
- (e) In meeting the requirements of 310 CMR 7.00: *Appendix A*(6)(d), the ratio of total actual emission reductions to the increase in actual emissions shall be as follows:
1. 1.2:1 of VOC or NO<sub>x</sub>; or
  2. 1:1 of any other pollutant subject to regulation under 310 CMR 7.00: *Appendix A*.
- (f) Shutdowns.
1. Emissions reductions achieved by shutting down an existing source or curtailing production or operating hours below baseline levels may be generally credited if such reductions are real, surplus, permanent, quantifiable and federally enforceable. In addition, the shutdown or curtailment is creditable only if it occurred after December 31, 1990, and the following conditions have been met:
    - a. the Department has submitted a completed emissions inventory as required by section 182(a)(1) of the Act; and
    - b. the Department has submitted complete revisions to 310 CMR 7.00: *Appendix A* as required by section 182(a)(2)(C) of the Act; and
    - c. the Department submits the 15% VOC reduction plan required by section 182(b)(1)(A) of the Act; and
    - d. the Department submits the attainment demonstration required by section 182(c)(2) of the Act; or
  2. If any of the submissions in 310 CMR 7.00: *Appendix A*(6)(f)1.a. through d. are delinquent, incomplete or disapproved, emissions reductions from shutdowns or curtailments can not be used, unless the shutdown or curtailment occurred either on or after the date the new source plan approval application is filed or unless the applicant can establish that the proposed new source is a replacement for the shutdown or curtailed source, and the cutoff date provisions of paragraph (6)(f)1. are observed.
- (g) With respect to a proposed increase in VOC emissions, no emissions credit shall be allowed for reductions in any organic compound specifically excluded from the definition of "VOCs" in 310 CMR 7.00.
- (h) Credit for an emissions reduction may not be claimed to the extent that the Department has relied on the reduction as a condition of the Massachusetts SIP, in demonstrating attainment or reasonable further progress, in issuing any permit or plan approval under 310 CMR 7.02(2)(BACT requirement), 310 CMR 7.00: *Appendix A*, 40 CFR 52.21 (PSD), operating permits issued either under 310 CMR 7.00: *Appendix C* or pursuant to 40 CFR part 71 or otherwise required under the Act. Incidental emissions reductions which are not otherwise required under the Act may be creditable as emissions reductions for such purposes if such emissions reductions meet the applicable requirements of 310 CMR 7.00: *Appendix A*(6).
- (i) Emission reduction credits (ERCs) withdrawn from the Massachusetts Emission Reduction Credit Bank (310 CMR 7.00: *Appendix B*(3)) may be used as offsets, providing the ERCs are federally enforceable and meet all of the requirements under 310 CMR 7.00: *Appendix A*(6).
- (j) Emission reductions generated by the seasonal control of ozone precursors (VOC or NO<sub>x</sub>), during the period May 1 through September 30, may be used at any time during the calendar year. Emission reductions generated by the seasonal control of VOC or NO<sub>x</sub>, during the period October 1 through April 30, may only be used during the period October 1 through April 30. Emission reductions generated by the seasonal control of carbon monoxide, during the period November 1 through February 28, may be used at any time during the calendar year. Emission reductions generated by the seasonal control of carbon monoxide, during the period March 1 through October 31, may only be used during the period March 1 through October 31.

Appendix A: continued

(7) Source Impact Analysis. The applicant shall demonstrate to the satisfaction of the Department that;

- (a) the emissions offsets required under 310 CMR 7.00: *Appendix A*(6), when considered in conjunction with the proposed emissions increase will have a net air quality benefit in the affected area; and
- (b) the emissions from the proposed new major stationary source or major modification will not contribute to nonattainment in, or interfere with maintenance by any other state of any national primary or secondary ambient air quality standard ; and
- (c) the emissions from the proposed new major stationary source or major modification will not interfere with measures required to be included in the applicable implementation plan for any other State under a program for the prevention of significant deterioration or for the protection of visibility.

(8) Additional conditions for approval. In order for the Department to issue an approval under 310 CMR 7.00: *Appendix A*, the following conditions shall be met:

- (a) All major stationary sources in Massachusetts owned or operated by the owner or operator of the proposed source (or by any entity controlling, controlled by, or under common control with such owner or operator) which are subject to federally enforceable emission limitations must be in compliance, or on a federally enforceable schedule for compliance, with all applicable emissions limitations and standards under the Act.
- (b) By means of an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed new or modified stationary source, the owner or operator of the proposed stationary source or modification shall demonstrate to the satisfaction of the Department that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.
- (c) The Administrator has not determined that the Massachusetts SIP is not being adequately implemented for the nonattainment area in which the proposed stationary source or modification is to be constructed in accordance with the requirements of part D of the Act.

(9) Public participation.

- (a) The Department shall notify all applicants as to any administrative or technical deficiencies in the application or information submitted.
- (b) After receipt of a technically complete application the Department shall:
  1. Make a proposed decision as whether the plan approval application should be approved, approved with conditions, or disapproved.
  2. Make available, in at least one location in each region in which the proposed source would be constructed, a copy of all materials the applicant submitted, a copy of the proposed decision, and a copy or summary of other materials, if any, considered in making the proposed decision.
  3. Notify the public, by advertisement in a newspaper of general circulation in each region in which the proposed source would be constructed of the opportunity for comment at a public hearing in accordance with the provisions of M.G.L. c. 30A, § 2. as well as of the opportunity to submit written public comment to the Department.
  4. Send a copy of the notice of public comment to the applicant, the EPA, and officials and agencies having jurisdiction over the location where the proposed construction would occur as follows: any other State or local air pollution control agencies, the chief executives of the city where the source would be located; any comprehensive regional land use planning agency, and any Federal Land Manager, or Indian Governing body whose lands may be affected by emissions from the source or modification.
  5. Consider all public comments (written and oral) submitted at any public hearing(s) in making a final decision on the approvability of the application. The Department shall make all comments available for public inspection in the same locations where the Department made available preconstruction information relating to the proposed source or modification.
  6. Make a final decision as to whether the plan approval application should be approved, approved with conditions, or disapproved.

Appendix A: continued

7. Notify the applicant in writing of the final decision and make such notification available for public inspection at the same location where the Department made available preconstruction information and public comments relating to the source.

(10) Source obligation.

(a) Except as provided for in 310 CMR 7.00: *Appendix A*(10)(b),

1. any owner or operator who constructs or operates either a stationary source or modification not in accordance with the terms of the approval to construct issued under 310 CMR 7.00: *Appendix A*; or
2. any owner or operator of a stationary source or modification subject to 310 CMR 7.00: *Appendix A*, who commences construction after November 15, 1992 without applying for and receiving approval under 310 CMR 7.00: *Appendix A*,

shall be considered in noncompliance with 310 CMR 7.00: *Appendix A*, unless a complete application to construct or substantially reconstruct or alter under 310 CMR 7.02(2) was filed by November 15, 1992 and the change was approved by the Department.

(b) If an owner or operator of a stationary source began construction of a new source or a modification before the applicable date specified in 310 CMR 7.00: *Appendix A* (10)(b)(1. through 4.), then the owner or operator need not comply with 310 CMR 310 CMR 7.00: *Appendix A*.

1. If the source or modification resulted in an increase in actual emissions of VOC's, then the applicable date is January 10, 1980.
2. If the source or modification resulted in an increase in actual emissions of CO, then the applicable date is January 10, 1980, or the date on which the location in which the construction or modification occurred was declared in the Federal Register to be in nonattainment.
3. If the source or modification resulted in an increase in actual emissions of NO<sub>x</sub>, then the applicable date is November 15, 1990.
4. If the source or modification resulted in an increase in any other nonattainment pollutant, then the applicable date is the date on which the location in which the construction or modification occurred was declared in the Federal Register to be in nonattainment for that pollutant.

(c) Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date.

(d) Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the Massachusetts SIP and any other requirements under local, State or Federal law.

(e) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation on the capacity of the source or modification to emit a pollutant, where such enforceable limitation was established after August 7, 1980, then the requirements of 310 CMR 7.00: *Appendix A* shall apply to the source or modification as though no previous approval had been issued on the source or modification.

NON-TEXT PAGE

APPENDIX B: U EMISSION BANKING, TRADING, AND AVERAGING

(1) Introduction. 310 CMR 7.00: *Appendix B* establishes principles and procedures which can be utilized by facilities to comply with the requirements of 310 CMR 7.18, 310 CMR 7.19 and 310 CMR 7.00: *Appendix A*. 310 CMR 7.00: *Appendix B* contains provisions to allow emission averaging or "bubbles" and provisions to allow for the creation and use of emission reduction credits to be "banked", used or traded among facilities.

(2) Definitions. The definitions found in 310 CMR 7.00 apply to 310 CMR 7.00: *Appendix B*. The following words and phrases shall have the following meanings as they appear in 310 CMR 7.00: *Appendix B*. Where a term is defined in the 310 CMR 7.00 definitions section and the definition also appears in 310 CMR 7.00: *Appendix B*, the definition in 310 CMR 7.00: *Appendix B* controls.

Actual Emissions means, the average rate, in tons per year, at which a unit actually emitted the pollutant during the two-year period which precedes the date of application and which is representative of normal production rates or activity levels. The Department shall allow the use of a different two year consecutive time period, within five years immediately prior to the date of application, upon a determination that the alternative two year period is more representative of normal source operation. Actual emissions shall be calculated using the eligible source's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

Allowable emissions means the emissions rate of a source calculated using either the production or activity rates associated with the maximum rated capacity of the source, and the hours of operation or the permitted hours of operation or capacity provided that such permit is federally enforceable and so as not to exceed the following:

- (a) Any applicable standards set forth in 40 CFR part 60 (NSPS) or 61 (NESHAPS);
- (b) Any applicable Massachusetts SIP emissions limitation including a limitation with a future compliance date; or
- (c) Any emissions rate specified as a federally enforceable permit condition, including a limitation with a future compliance date.

Area Source means stationary and non-road sources of emissions who are too small and/or too numerous to be individually included in a stationary source emission inventory examples being home heating furnaces, aircraft, commercial vessels, gas stations and lawn mowers.

Baseline means the emission level set for an eligible source and calculated in accordance with methods described in 310 CMR 7.00: *Appendix B*(3)(c), which reflects the lower of actual emissions, or allowable emissions and which serves as the level below which emission reductions are considered surplus and can be eligible for approval by the Department as Emission Reduction Credits (ERC). As future allowable emission rates or emission standards become effective, the lowest of future allowable emissions, allowable emissions or actual emissions will be the baseline below which reductions must be made to be considered surplus.

Bubble means an alternative emission control strategy where two or more existing emission points are regarded as being placed under a hypothetical bubble, which is then regarded as a single emission source.

Curtailment means a permanent reduction in hours of operation or process rate, said reduction approved in a permit issued by the Department.

Direct Determination means a calculation or measurement based on source specific information rather than from estimates of emission and control efficiencies.

Eligible Source means any stationary, area or mobile source of VOC, NO<sub>x</sub> or CO emissions which is eligible to participate in emissions banking and trading at any point in time.

Appendix B: continued

Emission Estimation means calculation of emissions using estimated emission factors and assumptions of control efficiency not based in whole or in part on actual measurement or detailed records for an emission unit.

Emission Limiting means a program or strategies that directly specify limits on total mass emission, emission related parameters (*e.g.*, emission rates per unit of product) or levels of emission reductions that are required to be met by eligible sources.

Emission Reduction Credit (ERC) means the actual air pollutant reductions from an emitting source that have been certified by the Department as enforceable, permanent, quantifiable, real, and surplus in accordance with the requirements of 310 CMR 7.00: *Appendix B*.

Enforceable means those limitations and conditions which are enforceable by the Department of Environmental Protection and the EPA. Examples of such enforceable mechanisms include, but are not limited to the following:

- (a) Conditions in pre-construction permits issued pursuant to 40 CFR 52.21 (federal delegated PSD programs); or
- (b) Limitations developed pursuant to 40 CFR Parts 60 (NSPS) and 61 (NESHAPS); or
- (c) Requirements contained in the EPA-approved Massachusetts State Implementation Plan (SIP), or source-specific SIP revisions that are approved by EPA; or
- (d) Conditions in pre-construction "plan approvals" issued by the Commonwealth of Massachusetts, provided that those pre-construction "plan approval" regulations have been approved by the EPA in the *Federal Register* as meeting the requirements of 40 CFR 51.160.
- (e) Permits issued pursuant to generic bubble regulations that have been approved by EPA as adhering to the December 4, 1986, Emissions Trading Policy Statement.
- (f) Information contained in a Department-issued Emission Reduction Credit approval for retrospectively approved ERCs, as to by what means the ERCs were created.

Future Allowable means the maximum emission rate, process rate or activity level assumed in the most recent Department adopted State Implementation Plan for Ozone or State Implementation Plan for Carbon Monoxide. An example might be the future allowable (1994) emission rate for Leather Coating operations at 27.4 pounds of VOC per gallon of solid applied [310 CMR 7.18(22)] which when applied to the two year average capacity utilization factor and two year average hours of operation for an eligible source, would result in the estimate of baseline starting on the rule effective date in 1994. Prior to this effective date, credit is calculated using a baseline that includes the lower of actual or allowable emissions at the time of application.

Irreversible Process Change means a process modification or equipment substitution that completely and irreversibly eliminates key emitting properties of the emission unit. For example, elimination of solvent use in a process line.

Mass ERC Bank means the Massachusetts registry for ERCs quantified by mass (*e.g.* tons). ERCs from this bank may be used either for compliance pursuant to 310 CMR 7.00: *Appendix B(3)* or for "discrete" offsets pursuant to 310 CMR 7.00: *Appendix B(3)* and 310 CMR 7.00: *Appendix A*.

NEPOOL Marginal Emission Rate or Successor Organization Rate means the corresponding calendar year NO<sub>x</sub> emission rate determined by NEPOOL or a successor organization through accepted modeling or data gathering techniques reviewed and approved by the Department.

Netting means the mechanism used to secure an exemption of modifications at existing stationary sources from preconstruction permit requirements under 310 CMR 7.00 Appendix A (Emission Offsets and Nonattainment Review) and/or 40 CFR 52.21 (Prevention of Significant Deterioration) regulations which apply when there is a significant net emissions increase.

Appendix B: continued

Non-inventoried Emission Source Category means air pollutants emitted into the ambient air from any source category which has not been included in the Department's 1990 emission inventories.

Offset means the use of an Emission Reduction Credit to compensate for emission increases of a nonattainment pollutant from a new major stationary or modified major stationary source subject to the requirements of 310 CMR 7.00: *Appendix A*.

Permanent means that emission reductions implemented for the purpose of generating Emission Reduction Credit must be assured for the life of the corresponding Emission Reduction Credit through a federally enforceable mechanism.

Program Baseline means the level of emissions, or emission related parameters for each eligible source or group of sources from which the program results (*e.g.* quantifiable emission reductions) shall be determined. For purposes of 310 CMR 7.00: *Appendix B*, the program baseline shall be the 1990 Base Year Emission Inventory of Volatile Organic Compound, Oxides of Nitrogen and Carbon Monoxide.

Quantifiable means that the amount, rate, and characteristics of an emission reduction can be measured through a replicable method acceptable to the Department of Environmental Protection and the EPA.

Rate ERC Bank means the Massachusetts registry of ERC that have been certified at a continuous rate (*i.e.* tons per year). ERCs from the Rate ERC Bank may be used for the purposes of offsets pursuant to 310 CMR 7.00: *Appendix B(3)* and 310 CMR 7.00: *Appendix A*.

Real means the reduction in actual emissions released into the air.

Remaining Useful Life means the length of time for which the equipment that is being shut down would have continued to operate had the owner/operator chosen not to shut down the equipment and apply for certification of credits at that time. Remaining useful life shall be ten years except in those cases where the Department determines a shorter period is appropriate, or the applicant demonstrates to the Department's satisfaction that a period of longer than ten years is warranted. The Department will use the following criteria for making the determination including, but not limited to: the age of the equipment; the type of equipment; maintenance history; operating history; and industry norms. In any case, remaining useful life shall not exceed 20 years.

Replicable means methods which are sufficiently clear and unambiguous such that the same or equivalent results would be obtained by the application of the methods by different users.

Shutdown means the earlier of (1) the date that the Department verifies that the source is shutdown or 2) the date that operations and emissions from an emitting unit ceased and the associated emission units have been removed or rendered inoperable.

State Implementation Plan (SIP) means the most recently prepared plan or revision thereof required by the Clean Air Act, 42 USC Section 7410, which has been either adopted by the Department and submitted to the United States Environmental Protection Agency (EPA) for approval or approved by the United States Environmental Protection Agency (EPA), whichever is more stringent.

Surplus means, emission reductions beyond an established source baseline which, as such, are not required by the Department adopted SIP, relied upon in any applicable attainment demonstration, or credited in any RFP or milestone demonstration.

Transfer means the conveyance of ownership of an Emission Reduction Credit from one entity to another.

## Appendix B: continued

Use for the purposes of 310 CMR 7.00: *Appendix B*, the term "use" shall mean to employ for emission averaging or emission trading an ERC such that the person who owns or controls the ERC has received a plan approval from the Department which factors the ERC into the emissions from the facility for purposes of compliance with emission limitations or emission offset requirements.

(3) Emission Reduction Credit Banking and Trading.

(a) Introduction and statement of purpose. The goal of the program, defined by 310 CMR 7.00: *Appendix B*(3), is to encourage the creation and trading of surplus emission reductions as Emission Reduction Credits (ERC) to be used for purposes of offsets, netting and cost effective compliance without interfering with any applicable requirements concerning attainment, reasonable further progress or any other applicable air pollution control requirement.

(b) Applicability.

1. Entry into this program is voluntary.
2. 310 CMR 7.00: *Appendix B*(3) applies to the owner/operator of eligible sources including stationary sources, area sources and mobile sources applying for certification of surplus emission reductions as emission reduction credits (ERC).
3. Nothing in 310 CMR 7.00: *Appendix B* shall require that ERCs be listed in either the Rate ERC Bank or the Mass ERC Bank if the ERCs are being transferred to other facilities operated or owned, in whole or part, by the creator of the ERCs, provided that the requirements of 310 CMR 7.00: *Appendix B*(3)(e) are met prior to use of the ERCs.
4. Nothing in 310 CMR 7.00: *Appendix B* shall require that emission reductions, created for the purpose of offsets, be submitted for approval through the emission banking program if the emission reductions are used by the facility or within facilities owned by the same economic entity which created the emission reductions and provided that the requirements of 310 CMR 7.00: *Appendix A* are met.

(c) Generation of Emission Reduction Credit.

1. General Principles which apply to generation of Emission Reduction Credits (ERC).
  - a. Emission reductions within Massachusetts shall be recognized as ERCs only after the approval of the Department has been obtained in accordance with 310 CMR 7.00: *Appendix B*(3).
  - b. Emission reductions generated for the purpose of creating ERCs must meet, at minimum, all of the following principles, to receive approval as emission reduction credits.
    - i. The reductions must have occurred after December 31, 1990.
    - ii. The reductions must be real reductions of emissions of: Volatile Organic Compounds (VOC), Oxides of Nitrogen (NO<sub>x</sub>), or Carbon Monoxide (CO);
    - iii. The reductions must be surplus in that they are reductions in emissions below the baseline established for the eligible source.
    - iv. The reductions must be permanent and the amount and duration of the reduction must be documented; and,
    - v. The reductions must be quantifiable, with a replicable basis for calculating the amount of reduction as well as reliable methods for assessing compliance with the emission rates after the reduction has been made, and the reductions must be enforceable.
  - c. Emission reductions cannot be recognized as ERCs if said reductions are required by Federal or Department permits, plan approvals, agreements, administrative or judicial orders, or other enforcement actions or regulations.
  - d. Emission reductions can only be eligible for certification pursuant to 310 CMR 7.00: *Appendix B*(3) if said reductions occur from emissions sources within the geographical boundaries of Massachusetts. ERCs generated by sources outside of the Commonwealth may be used by facilities within the Commonwealth pursuant to 310 CMR 7.00: *Appendix B*(3)(f).
  - e. Emission reductions eligible for credit are those emissions reductions below baseline for the eligible source.
  - f. Emission reductions considered eligible for consideration as ERCs include:

## Appendix B: continued

- i. Shutdown or curtailment provided that the applicant can demonstrate to the satisfaction of the Department that demand for the services or product will not or cannot shift to other similar sources in the State resulting in no net decrease in emissions from the source category. Where emission reductions from shutdowns of electric generating facilities will be used exclusively as offsets for new facilities pursuant to 310 CMR 7.00: *Appendix A*, the ERC will not be adjusted for shifting demand. If such reductions are to be deposited in the Mass ERC Bank, credit will be available only to the extent that the emission rate from the unit being shut down or curtailed is greater than the applicable NEPOOL marginal emission rate or successor organization rate.
  - ii. Control of an emission unit beyond that required by Massachusetts Air Pollution Regulations or federal law and regulations.
  - iii. Seasonal Controls with the recognition that VOC and NO<sub>x</sub> emission reductions created by the application of seasonal controls will be subject to use restrictions as defined in 310 CMR 7.00: *Appendix B(3)(e)8*.
  - iv. Early implementation of future emission controls provided that the reductions commence before promulgation of the regulations establishing the new emission controls. These reductions are surplus only up to the effective date for compliance with the program or emission controls. Credit will cease to accrue upon the effective date of the new emission controls.
  - v. Emission reductions which result from application of mobile and area source controls provided that the reductions meet all other requirements of 310 CMR 7.00: *Appendix B* including provisions for establishment of baseline and replicable quantification as well as compliance monitoring methods.
  - g. Emission reductions are not eligible for consideration as an ERCs if said reductions are generated by an un-inventoried area source category (*e.g.*, small bakeries) or if said reductions are generated by biogenic sources (*e.g.*, trees).
2. Calculation of Credit.
- a. Credit shall be calculated by first calculating baseline emissions, second calculating the post reduction emissions, and third multiplying the difference between the baseline emissions and post reduction emissions by the applicable compliance assurance factor. The ERC amount is the result of complete application of these three steps.
  - b. Baseline emissions will be expressed in tons of pollutant emitted per day or per year, whichever is more appropriate and shall be further defined as ozone or non-ozone (October 1 - April 30) season.

## Step 1:

- c. Baseline emissions will be established for each stationary source according to the following formula:

$$\text{baseline} = \text{ER} \times (\text{CU} \times \text{H})$$

Where:

ER equals the lower of the actual or allowable emission rate

ER shall be expressed as mass of emission per unit of production or thruput (*e.g.*, pounds of VOC per gallon of solids applied or pounds of NO<sub>x</sub> per million Btu)

CU equals the actual average hourly capacity utilization (*e.g.*, expressed in terms of millions of Btu per hour or numbers of gallons of solids applied in an hour).

H equals the actual number of hours of operation per day.

ERC, CU and H are based on average historical values for the factors for two representative years within the five years immediately prior to the date of application.

Appendix B: continued

d. Baseline emissions will be established for each area source measure according to the following formula:

baseline = ER x ACT

Where:

ER equals the emission rate as determined by the Department and EPA in the most recent emission inventory using EPA approved methods and emission factors including AP-42 and Volume IV for Area Source, or the EPA Off-road Study for off-road sources. Assumptions shall be consistent with the most recent adopted periodic emission inventory prepared by the Department.

ER must be the lower of actual, or allowable emission rate and shall be expressed as mass of emission per unit of production or thruput (*e.g.*, pounds per 1000 gallons burned or pounds per capita, as is appropriate)

ACT equals the actual average activity factor expressed in a manner so as to be consistent with the units required by the emission rate such as number of gallons burned, or number of persons affected.

- e. Baseline emissions will be established for each Mobile Source by methods approved or published by EPA or the Department, including but not limited to:
  - i. Interim guidelines on the Generation of Mobile Source ERC, 58 FR 11134.
  - ii. Guidance for Implementation of Accelerated Retirement of Vehicle programs, U.S. EPA, February 1993.
  - iii. Program for Generation of Emission Credits by Urban Buses, U.S. EPA, January 1993.

3. Calculation of post-reduction emissions.

Step 2:

- a. Creditable, workable and replicable methods must be used to quantify post-reduction emissions reflecting the real emission reduction below baseline emissions. The post-reduction emissions shall be calculated using methods as or more accurate than those used to calculate baseline emissions.
- b. Post-reduction emissions for DSM shall be determined after implementation of these DSM measure(s) and based on review of historical records covering a period of no less than one year collected since implementation, and shall be calculated in conformance with guidance provided and approved by the Massachusetts DPU.

4. Calculation of the Emission Reduction Credit.

- a. Step 3: The emission reduction is calculated by first subtracting post-reduction emissions from baseline emissions.
- b. The emission reduction will be certified by the Department as an emission reduction credit after application of a compliance assurance multiplier to the resulting difference between baseline emissions and post-reduction emissions. The applicable compliance assurance multiplier will be determined by the Department within the ranges provided in the table below. Actual ERC adjustment will be set for individual circumstances and conditions within these ranges.

| <u>Method of Compliance Assurance</u>  | <u>Compliance Assurance<br/>Multiplier</u> |
|--|--|
| Irreversible process change  | 1.0  |
| Compliance Assessment by Direct Determination:<br>Continuous Emission Monitoring System (CEMS)<br>installed pursuant to 40 CFR part 75 | 1.0  |
| Mass Balance Reconciliation  | 0.85 - 0.99                                |
| CEMS other than 40 CFR part 75   | 0.80 - 0.95                                |

## Appendix B: continued

## Compliance Assessment by Testing:

Periodic Stack Test / Emission Test

0.80 - 0.90

Testing of Capture Efficiency and control

## Emission Determinations using estimates of

capture and control and/or emission factors

0.50 - 0.80

- i. The resulting amount of credit will be rounded to the nearest ton.
  - ii. Once the three step calculation has been completed, and the result rounded to the nearest ton, the resulting ERCs shall not be subject to adjustment of value.
  - c. ERCs certified from discrete, retrospective reductions shall be expressed in total tons and will be placed in the Mass ERC Bank. ERCs from the Mass ERC Bank may be used as offsets pursuant to 310 CMR 7.00: *Appendix A* with approval of the Department.
  - d. ERCs certified from either shutdowns or enforceable prospective over-control of emissions shall be expressed in tons per year, and will be placed in the Rate ERC Bank. In the event the owner of ERCs from a shutdown wishes to transfer the ERCs to the Mass ERC Bank, the Department will assign the ERCs from the shutdown a "remaining useful life" in years, which will be used to transfer the ERCs from the Rate ERC Bank to the Mass ERC Bank. If the ERC transferred are from shutdown of an electric generating facility, the Department will also subtract the NEPOOL marginal emission rate or successor organization rate replacement power in effect at the time of original certification of the ERCs.
- (d) Procedure For Certification of Emission Reductions as ERC.
1. An application for certification of ERCs may be submitted in advance of the time when the reduction is actually made (prospective certification) or after the reduction has been made (retrospective certification).
  2. Unapprovable sources of generation and quantities.
    - a. ERCs may not be generated from non-inventoried sources. In other words, only sources accounted for in SIP and RFP planning (inventoried sources) may be used to generate credits.
    - b. ERCs can be approved only where the emission reduction, as calculated under 310 CMR 7.00 *Appendix B(3)(c)4.a.*, is greater than 5 tons per year for deposit in the Rate ERC Bank, or greater than 5 tons for the Mass ERC Bank.
  3. For emission reductions implemented prior to January 1, 1994, an Emission Reduction Credit Application must be submitted to the Department by September 30, 1994.
  4. For emission reductions implemented after January 1, 1994, an Emission Reduction Credit Application must be submitted to the Department within six months of:
    - a. the end date of the period being evaluated for a retrospective discrete emission reductions.
    - b. the approval date of a federally enforceable mechanism for prospective emission reductions other than 310 CMR 7.00 *Appendix B(3)*.
  5. Application Procedures.
    - a. Any person who owns or operates an emission unit at which an eligible emission reduction has occurred or will occur may submit an Emission Reduction Credit (ERC) application in accordance with the requirements of 310 CMR 7.00: *Appendix B*.
    - b. The ERC application shall be submitted on a standard form supplied by the Department with documentation provided by the applicant as to the calculation method for baseline and the post-reduction emissions as required by 310 CMR 7.00: *Appendix B(3)* as well as a proposed method for determining and assuring compliance.
    - c. ERC applications shall express emission reductions in tons, or in tons per year if for offsets, and indicate what portions of the reductions were made during the period May 1 - September 30 (ozone season).
    - d. ERC applications shall contain sufficient information to allow the Department to evaluate each emission reduction consistent with the requirements of 310 CMR 7.00: *Appendix B(3)*.

## Appendix B: continued

- e. The ERC application shall be signed by a responsible official.
  - f. The ERC application shall comply with provisions of 310 CMR 4.00 *et seq.* for fees and permit procedures.
6. ERC approvals will be emission-limiting, either prospectively or retrospectively, as applicable. An ERC approval will be issued pursuant to 310 CMR 7.00: *Appendix B(3)*. To be made federally enforceable, it must contain the specific quantifiable emission limits reflecting the change in emission rate, operating conditions and other measures taken to generate the ERCs. All emissions limitations, controls, and other requirements imposed by such approvals must be at least as stringent as all other applicable limitations and requirements contained in the SIP, enforceable under the SIP, or otherwise federally enforceable. All limitations, controls, and other requirements imposed by such approvals must be permanent, quantifiable, and enforceable as a practical matter.
- a. In order to confirm emission reductions claimed in conjunction with an application for a prospective Emission Reduction Credit, the Department will require sources to implement compliance assurance methods such as monitoring, recordkeeping and reporting as part of the ERC certification approval.
  - b. The Department may also require the applicant to conduct source testing utilizing Department or EPA approved test methods, including but not limited to those methods referenced in 40 CFR Part 60 Appendix A, or 310 CMR 7.18(2), or 310 CMR 7.19(13), as appropriate for the source.
  - c. In addition, the Department may require regular submittal of information which the Department determines is necessary to maintain the integrity of the ERC.
7. A person having ownership of ERCs has the exclusive right to possess and dispose of the ERCs subject to the applicable restrictions contained in the certification approval and 310 CMR 7.00: *Appendix B(3)*.
8. ERCs in the Rate ERC Bank shall revert to the state to be retired for the benefit of the environment if they have not been used by midnight of the date ten years from the date of Department approval. ERCs in the Mass ERC Bank shall not expire or cease to exist after a set period of time, even if not traded or used.
- (e) Withdrawal, Transfer, and Use of Emission Reduction Credits.
- 1. The Department must issue a federally enforceable approval to a person seeking to use ERCs prior to the use of any ERCs. This includes approvals to construct or operate issued to stationary sources and a practical equivalent to be issued to persons who have applied to use ERCs in area and mobile source situations.
  - 2. Persons seeking to use ERCs must obtain an amount of credit equal to five percent more than the amount needed for the offset or compliance calculation. This five percent increment shall be held by the applicant and not used or sold until such time that the Department determines whether or not the excess credit can be released for use. Such a determination shall be made by the Department on or about January 1, 1999. If the Department determines it cannot release said ERCs for use, the ERCs will by operation of law be retired for the benefit of the environment.
  - 3. ERCs may not be used to meet the requirements of, or result in violation of federal New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPS), the requirements for Lowest Achievable Emission Rate (LAER), the requirements for Best Available Control Technology (BACT), Maximum Achievable Control Technology (MACT), Title IV, section 183(e) and 183(f) of the Clean Air Act, cause a violation of a National Ambient Air Quality Standard for criteria pollutants, cause a violation of a PSD increment or create a nuisance condition. ERCs may not be used to stay below an applicability threshold of the Clean Air Act or 310 CMR 7.00 *et seq.*
  - 4. ERCs may not be used to comply with performance standards established by regulation, such as, operating procedure requirements (*e.g.* covers on degreasers, operating within a specific temperature range) or to comply with requirements for record keeping, reporting or facility testing as may be required by the Department.
  - 5. Where ERCs are used for netting under 310 CMR 7.00: *Appendix A*, the ERCs must meet the criteria in 310 CMR 7.00: *Appendix A Net Emissions Increase*(a) through (g), as applicable.

## Appendix B: continued

6. Certified ERCs can be traded between emission sectors (*e.g.* from mobile sources to stationary sources) provided that credit generated by stationary source reductions may under no circumstances be used to comply with any mobile source requirement.
  7. ERCs generated through emission reductions of one pollutant can not be used for trading or averaging with another pollutant.
  8. ERCs generated by the control of ozone precursors (VOC and NO<sub>x</sub>) during the period May 1- September 30, can be used at any time during the calendar year. ERCs generated by control of ozone precursors during the period October 1 through April 30, can only be used in the same season as generated (October 1 through April 30).
  9. ERCs generated by the use of seasonal control of carbon monoxide during the period November 1- February 28, can be used at any time during the calendar year. ERCs generated through use of seasonal control of carbon monoxide during the period March 1 through October 31 can only be used in the in the same season as generated (March 1- October 31).
  10. ERCs approved from shutdown or curtailment of an emission unit where the emitting operations are based on manufacturing activity and the operations, and jobs associated with the emitting activity are shifted outside of Massachusetts, are eligible for use only in Massachusetts. This provision does not apply to electric generating facilities.
  11. ERCs generated by shutdowns are presumptively available only for offsets pursuant to 310 CMR 7.00: *Appendix A*. If at any time prior to use of ERCs as offsets an owner of said ERCs wishes to use them for compliance purposes, the Department will assign a "remaining useful life" to said ERCs which will be used to transfer the ERCs from the Rate ERC Bank to the Mass ERC Bank. If the ERCs were generated by an electric generating facility shutdown, the Department will also subtract the NEPOOL marginal emission rate or successor organization rate in effect at the time of original ERC certification. Offset credits generated outside of the Commonwealth of Massachusetts are not eligible for conversion to mass-based credits.
  12. ERCs from the Rate ERC Bank used as offsets pursuant to a 310 CMR 7.00: *Appendix A* approval, must be retired at the approved annual offset rate regardless of the facility's annual actual emissions. In addition, ERCs from the Mass ERC Bank used as offsets pursuant to a 310 CMR 7.00 *Appendix A* approval, must be obtained for the current year of operation plus four subsequent years of operation; and five years of ERCs, available for use in each of those five years, must be held at all times for the approval to remain valid. These ERCs will be retired on December 31 of each year, beginning with the first calendar year or any portion thereof, in which the facility operates.
  13. ERCs utilized as offsets are considered "used" commencing with startup of a facility; ERCs with an expiration date prior to actual startup of a source needing offsets will not be acceptable as offsets for the facility.
  14. ERCS created by NO<sub>x</sub> emissions reductions during the period from May 1 through September 30 in either 1997 or 1998 may be converted to NO<sub>x</sub> allowances pursuant to 310 CMR 7.27(9)(d).
- (f) Interstate Trading of ERCs.
1. Federally enforceable emission reductions generated by facilities outside the Commonwealth may be used in the Commonwealth, and ERC generated in the Commonwealth may be used in other states or jurisdictions, provided that the State within which the other facility is located has executed a Memorandum of Understanding concerning emission trading with the Commonwealth.
  2. Said Memoranda of Understanding will include at a minimum:
    - a. the requirement that creditable emission reductions be real, surplus, permanent, quantifiable and federally enforceable;
    - b. discounts as appropriate to make ERCs generated outside of the Commonwealth equivalent with ERCs generated in the Commonwealth;
    - c. restrictions on allowable directionality of trades if necessary;
    - d. state-specific notification or other requirements, as necessary;
    - e. ERC lifetimes and expiration dates, if applicable;
    - f. ozone season definition and restrictions;

Appendix B: continued

- g. the requirement that any ERC generated outside of the Commonwealth can be used in the Commonwealth only in compliance with 310 CMR 7.00: *Appendix B(3)(e)*, except where specifically stated otherwise; and
  - h. averments of cooperation on enforcement and reporting.
- 3. Interstate emission reduction credit trades must comply with the specific requirements of the applicable Memorandum of Understanding.
- (g) Emission Reduction Credit Registry.
  - 1. Upon satisfaction of all applicable requirements of 310 CMR 7.00: *Appendix B*, approved emission reduction credits shall be registered in an Emission Reduction Credit Registry operated or overseen by the Department. Such registry shall include:
    - a. Name of generator and contact person;
    - b. Pollutant associated with the ERCs;
    - c. Amount of ERC expressed in tons, or in tons per year if banked in Rate ERC Bank;
    - d. Any seasonal use restrictions on the ERCs;
    - e. Whether the ERCs may be used or are reserved as part of a 5% set aside pursuant to 310 CMR 7.00: *Appendix B(3)(e)2*.
  - 2. ERCs shall be tracked within the Emission Reduction Credit Registry by assigning a serial number to each ton of ERC, or ton per year if banked for use as offsets. The serial number will provide information about the type of pollutant, type of ERC (rate/mass), seasonality and first year available for use.
  - 3. Information related to emission reduction credits maintained in the Emission Reduction Credit Registry shall be available for public review.
- (h) Program review.
  - 1. The Department shall maintain records of ERCs and shall account for unused ERCs as "emitted" within the context of RFP and periodic emission inventory reports.
  - 2. The Department shall conduct a review of the emission trading program beginning in 1995 and every three years thereafter. This review shall evaluate the handling of applications for ERC approval and use, and the legitimacy of approved ERCs, and may include review of ERCs creation and use protocols, and compliance assessment of sources using ERCs.
  - 3. The program review shall also include assessment of the impact of the program on Reasonable Further Progress, attainment or maintenance of the National Ambient Air Quality Standards, and ascertain if there is any significant effect from interstate trades pursuant to 310 CMR 7.00: *Appendix B(3)(f)*.
  - 4. Should a review reveal the need to make program revisions, the Department shall, within six months of the review findings, propose the appropriate program revisions.
  - 5. The results of Department reviews and the findings shall be reported in the context of required RFP and periodic inventory reports (every three years).
  - 6. Program Baseline for this program is the most recent revision of the 1990 Base Year Emission Inventory of Volatile Organic Compound, Oxides of Nitrogen and Carbon Monoxide and the State Implementation Strategy Plan submittal of November 15, 1993 which describes programs and strategies to be used by the Commonwealth to attain and maintain NAAQS for ozone and carbon monoxide. Source baseline as described in previous sections is defined within the context of the program baseline (the lower of actual, allowable or future allowable emissions) so as to avoid interference with attainment and maintenance of NAAQS.
- (4) Emission Averaging (Bubble).
  - (a) Introduction.
    - 1. The purpose of 310 CMR 7.00 *Appendix B(4)* is to specify requirements by which one or more facilities operated or controlled by the same economic entity can comply with either 310 CMR 7.18 or 7.19, respectively, using emissions averaging, herein referred to as a bubble, under either 310 CMR 7.18(2)(b) or 7.19(14).
    - 2. In an emissions bubble, a person who operates or controls one or more facilities with more than one emission unit subject to regulation by 310 CMR 7.00, may apply to the Department to meet the requirements of either 310 CMR 7.18 or 7.19 through a mix of control techniques. The emissions of the various emission units are averaged over a 24 hour period, except as provided for in 310 CMR 7.00 *Appendix B(4)(e)5*.

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(b) Applicability.

1. 310 CMR *Appendix B(4)* applies to any person who operates or controls a facility(ies) subject to either 310 CMR 7.18 (3) through (7), (10) through (12), (14) through (16), (21) through (27) or 310 CMR 7.19(4), (5), (7), (8), (12), that set an emission limitation in either pounds of VOC per gallon of solids applied or pounds of NO<sub>x</sub> per million Btu of heat input, respectively, and who chooses to comply by emission averaging.
2. For bubbles to comply with 310 CMR 7.18, emission units subject to emissions standards other than pounds of VOC per gallon of solids applied (*e.g.* such as pounds of VOC per pound of solids applied, pounds of VOC per 1000 square feet covered, metric units, *etc.*) may be averaged with other emission units subject to an emission limitation in the same units of measure.
3. For bubbles under 310 CMR 7.19, 310 CMR 7.19(14)(a), (b) and (c) describe which emissions units can be averaged together to comply with 310 CMR 7.19 and under what replicable and equivalent methods.
4. A bubble can not be used to comply with work practice requirements of either 310 CMR 7.18 or 7.19.
5. For purposes of 310 CMR 7.00 *Appendix B(4)*, emission bubbles are only allowed for the purpose of compliance at a single facility or multiple facilities which are operated by or under the control of the same economic entity.
6. Nothing in 310 CMR 7.00 *Appendix B(4)* relieves a facility from having to comply with other requirements of 310 CMR 7.00, *et seq.* as may be applicable.

NON-TEXT PAGE

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7. For facilities which have Department approved bubbles where the application was received prior to May 25, 1988, the approved bubble conditions, recordkeeping and reporting requirements shall remain in force and no revision of said bubble approvals is required by 310 CMR 7.00 *Appendix B(4)*, unless and until the facility wishes to have the existing bubble approval modified. At that time, the request to modify the bubble shall be subject to 310 CMR 7.00 *Appendix B(4)*.

(c) General Bubble Requirements.

1. Compliance with emission requirements, through use of a bubble, will be approved by the Department providing that:

- a. The bubble has been approved by the Department in accordance with 310 CMR 7.00 *Appendix B(4)*.
- b. At no time may the use of a bubble result in a violation of a National Ambient Air Quality Standard for nitrogen dioxide (NO<sub>2</sub>), particulate matter or carbon monoxide (CO) as determined by modelling.
- c. At no time may the use of a bubble result in total VOC or NO<sub>x</sub> emissions at a facility exceeding the applicable emission limitations in 310 CMR 7.18 or 7.19 averaged over a 24 hour period (except as provided for in 310 CMR 7.00 *Appendix B(4)(e)5.*) for emission units in the bubble.
- d. At no time may use of a bubble result in total VOC emissions exceeding a monthly facility emission baseline as calculated under 310 CMR 7.00: *Appendix B(4)(e)2*. At no time may use of a bubble with an averaging time longer than 24 hours result in NO<sub>x</sub> emissions exceeding the daily cap as calculated in 310 CMR 7.00 *Appendix B(4)(e)5*.
- e. Organic compounds, that are specifically excluded from the definition of VOC in 310 CMR 7.00, shall not be used to emission average.
- f. At no time may use of a bubble under 310 CMR 7.00 *Appendix B(4)* be used to meet the requirements of, or result in an increase in emissions for any emission unit above a New Source Performance Standard (NSPS), National Emission Standard for Hazardous Air Pollutants (NESHAP), the requirement for Best Available Control Technology (BACT), the requirement for Lowest Achievable Emission Rate (LAER) or Maximum Achievable Control Technology (MACT).
- g. Emission reductions used in a bubble must be real in that the emission reductions must be from an emission unit which actually operated within the two year time period immediately preceding the application for the bubble.
- h. Emission reductions used in a bubble must be permanent and the amount and duration of the reduction must be documented.
- i. Emission reductions used in the bubble must be quantifiable with a replicable method for calculating the amount of reduction, as well as, a replicable method for assessing compliance with the emission rates after the reduction has been made.
- j. Emission limitations must be federally enforceable and will be documented in the facility's emission control plan approval issued by the Department.

(d) Application for a Bubble.

1. Application for approval of an emission bubble shall be made as part of the submittal to the Department of an emission control plan pursuant to either 310 CMR 7.18(20) or 310 CMR 7.19(3) and shall include:

- a. Identification of all emission units to be included in the bubble, and
- b. Demonstration of how compliance will be met and maintained, and
- c. Demonstration that all emission units included in the bubble are operated by or under the control of the same economic entity, and
- d. Demonstration that the bubble will not increase emissions of an emission unit included in the bubble above the following standards as applicable:
  - i. A Best Available Control Technology (BACT) determination pursuant to 310 CMR 7.02(2), or 40 CFR 52.21, or
  - ii. A Lowest Achievable Emission Rate (LAER) determination pursuant to 310 CMR 7.00 *Appendix A*, or
  - iii. A Federal New Source Performance Standard (NSPS [40 CFR Part 60]), or

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- iv. A National Emission Standard for Hazardous Air Pollutants (NESHAP [40 CFR Part 61]), or
- v. A Maximum Achievable Control Technology (MACT) determination pursuant to 40 CFR Part 63.
- e. For bubbles to comply with 310 CMR 7.19, evidence that the bubble will not cause an exceedance of the National Ambient Air Quality Standard for nitrogen dioxide (NO<sub>2</sub>) or carbon monoxide (CO).
- f. For facilities wishing to bubble either VOC or NO<sub>x</sub> emissions, documentation that the bubble will result in total VOC or NO<sub>x</sub> emissions, respectively, in compliance with the applicable emission limitation on a 24-hour basis as calculated under 310 CMR 7.00: *Appendix B(4)(e)1*. Exceptions to this averaging period may be granted by the Department as provided for in 310 CMR 7.00 *Appendix B(4)(e)5*. For VOC bubbles, the person must document that the bubble will result in total VOC emissions below the emissions baseline on a monthly basis.
- g. Documentation that emission reductions used in the bubble are real, quantifiable, permanent and federally enforceable.
- 2. After approval of 310 CMR 7.00 *Appendix B(4)* by EPA into the Massachusetts SIP, certain applications to bubble will still require EPA approval. Persons wishing to include mobile and area sources in a bubble are required to have the approval of the EPA prior to inclusion of those sources in the bubble.
- 3. Sources subject to enforcement action require the approval of EPA prior to use of a bubble to comply with 310 CMR 7.18 or 7.19. If EPA does not object to the use of a bubble by any facility subject to enforcement action during the public comment period, then this will be taken as EPA approval to bubble.
- (e) Bubble Calculation.
  - 1. In order to comply with a bubble for VOC or NO<sub>x</sub>, the combined actual emissions (AcE) over a daily (or other period as allowed by 310 CMR 7.00 *Appendix B(4)(e)5*.) from all emission units in the bubble must be less than or equal to the allowable emission total (AIE) as determined by the following equations:

$$AcE = (Ac_1 \times B_1) + (Ac_2 \times B_2) + (...) + (Ac_n \times B_n)$$

$$AIE = (A_1 \times B_1) + (A_2 \times B_2) + (...) + (A_n \times B_n) + ERC$$

Where:

AcE = the combined actual emissions from the facility in pounds per day.

AIE = the allowable emissions from the facility in pounds per day.

Ac<sub>1</sub>, Ac<sub>2</sub>,...Ac<sub>n</sub> = the actual emission rate of each emission unit (e.g. for VOC; pounds of VOC per gallon of solids applied; for NO<sub>x</sub>, pounds of NO<sub>x</sub> per million Btu heat input) included in the bubble. Where a single CEMS is used to determine the emission rate of more than one emission unit, this will be a combined emission rate.

A<sub>1</sub>, A<sub>2</sub>,...A<sub>n</sub> = the most stringent applicable emission limitation for each unit of production (e.g. for VOC; pounds of VOC per gallon of solids applied; and for NO<sub>x</sub>, pounds of NO<sub>x</sub> per million Btu heat input).

B<sub>1</sub>, B<sub>2</sub>,...B<sub>n</sub> = the actual number of production units processed each day (e.g. for VOC: gallons of solids applied; for NO<sub>x</sub>; million Btu heat input per day).

ERC = the daily quantity of federally enforceable emission reduction credits (ERCs) from sources of either VOC or NO<sub>x</sub> emissions, certified by the Department under 310 CMR 7.00 *Appendix B(3)*.

- 2. In addition to 310 CMR 7.00 *Appendix B(4)(e)1*., in order to comply with a bubble for VOC the total combined actual emissions, over a calendar month, from all emission units in the bubble must be less than the baseline emissions determined by the following equation:

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$$BE = (ER \times CU \times H) + (ERC \times D)$$

Where:

BE = the baseline emissions from the facility in pounds per month. Baseline emissions for a bubble is the sum of the baseline emissions for all emission units in the bubble.

ER = Emission rate specified in terms of mass emission per unit of production or throughput (e.g. pounds of VOC per gallon of solids applied) representative of the 1990 emission rate, the future allowable emission rate as determined by the SIP, 310 CMR 7.18 or other federally enforceable emission rate, whichever is lowest.

CU = Average hourly capacity utilization (e.g. gallons of solids applied per hour).

H = average number of hours of operation per month.

D = Number of days per month that the ERC generating facility operates.

ERC = the daily quantity of federally enforceable ERCs from emission units emitting VOC certified by the Department under 310 CMR 7.00 Appendix B(3).

3. In order to determine the average hourly Capacity Utilization (CU) and average number of hours of operation per month (H) in 310 CMR 7.00 *Appendix B(4)(e)2.*, the facility shall average the CU rate and monthly H over the two calendar year period immediately preceding the date of the application for a bubble. Documentation in sufficient detail to enable Department staff to replicate the determination of CU and H must be submitted with the application.

4. Should it be determined that the two year historical production information required to determine CU and H is not representative of normal historical production for the facility, the applicant may submit suitable and sufficient documentation to demonstrate to the Department that two alternative consecutive years within the five year period preceding the application should be used to determine CU and H for the facility. The Department shall have final approval of the use of alternative historical production information.

5. Should it be determined for a NO<sub>x</sub> bubble that a 24 hour averaging period is insufficient to respond to the production demands at a specific facility, a facility operator or controller may submit suitable and sufficient documentation to demonstrate to the Department that an averaging period of up to and including 30 days for the bubble is more feasible given the production process and product requirements of the specific facility. Applications for a bubble with an averaging period of greater than 24 hours shall include a commitment from the facility to maintain a daily "cap" on maximum total emissions. The cap shall be determined according to the following equation:

$$\text{Cap} = (A_1 \times EI_1 \times H) + (A_2 \times EI_2 \times H) + (\dots) + (A_N \times EI_N \times H) + \text{ERC}$$

Where:

Cap = The emission cap for the facility in pounds per day. The emission cap for a bubble is the sum of the emission caps for all emission units in the bubble.

A<sub>1</sub>, A<sub>2</sub>,...A<sub>n</sub> = The emission rate for each emission unit specified in terms of mass emission per unit of production (e.g. pounds of NO<sub>x</sub> per million Btu) representative of the 1990 emission rate, the future allowable emission rate as determined by the SIP, 310 CMR 7.19 or other federally enforceable emission rate, whichever is lowest.

## Appendix B: continued

$EI_1, EI_2, \dots, EI_n$  = The maximum energy input capacity for each emission unit in million Btu per hour.

$H$  = 24 hours per day.

ERC = the daily quantity of federally enforceable ERCs from emission units emitting  $NO_x$  certified by the Department under 310 CMR 7.00 Appendix B(3).

(f) Department Review of a Request to Bubble. The following conditions apply to bubble applications;

1. The Department shall review each application for a bubble in a complete submittal of an emission control plan pursuant to 310 CMR 7.18(20) and 7.19(3).
2. An approved emissions bubble shall be in effect for a period of no more than five years from the date of Department final approval. However, for facilities subject to 310 CMR 7.00 Appendix C, with five year terms or less, the expiration date of the bubble shall be identical with the expiration date of the operating permit. At least nine months prior to the expiration of the bubble, the facility must reapply for permission to bubble. The Department shall review the bubble for compliance and may either renew the bubble or allow the bubble to expire. Should the bubble expire, the facility that held the bubble shall return to complying with applicable regulations based on continuous compliance for each regulated emission unit which was formerly in the bubble. Bubbles that do not already contain an emissions cap will not be required to take one as part of the renewal. For facilities with existing caps, new caps will not be recalculated.
3. The emission limitations in a bubble approval may be specific for each emission unit or may be expressed as a multi-emission unit average.

(g) Compliance Determination.

1. The Department shall determine compliance with the terms and conditions of the bubble through any means the Department judges to be adequate based upon the criteria listed below:
  - a. The provisions and emission limitations of any approved bubble shall be incorporated in the approval of the emission control plan submitted under 310 CMR 7.18(20) or 7.19(3).
  - b. Said emission control plan approval shall include, but not be limited to source specific emission limitation (*e.g.* pounds of VOC per gallon of solids applied; pounds of  $NO_x$  per million Btu heat input) and emission cap (*e.g.* pounds of VOC per month; pounds of  $NO_x$  per day) limits where applicable, record keeping requirements and test methods used to determine compliance.
  - c. Compliance with this approval shall be determined utilizing Department and EPA approved test methods and/or continuous emissions monitoring system, including but not limited to those methods referenced in 310 CMR 7.13, 7.14, 7.18(2), 7.19(13) as appropriate for the facility and emissions units.
  - d. In order for a facility to demonstrate compliance with the emission limitations of a bubble it is required that records shall be maintained. Records shall be kept on a daily basis for each emissions unit in the bubble and shall be specific enough to demonstrate compliance with the emission limits of the bubble for the facility as a whole. Record keeping shall include, but not be limited to:
    - i. Process information and identification of equipment;
    - ii. For surface coating operations, coating formulation information including the name of the coating, the color of the coating, the identification number for the coating as it relates to coating consumption information, the density of the coating, the total VOC contained in the coating by weight percent, the solids content of the coating as a volume percent, the percent by weight of exempt solvents as identified in the definition of VOC at 310 CMR 7.00 and the formulation of the diluents used or mixed in the coating (pounds VOC per gallon of diluent);
    - iii. For surface coating, daily coating/diluent consumption rate for each emissions unit in the bubble. Daily total of solvents used in clean-up.

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- iv. For bubbles to comply with 310 CMR 7.19, comply with the recordkeeping requirements contained in 310 CMR 7.19(13)(d).
  - v. Daily emissions or emission rates calculated in a manner to be consistent with the compliance averaging period approved for the facility.
  - vi. Any other information determined to be necessary by the Department to demonstrate compliance.
2. Records shall be kept at the facility and maintained for a five year period. The records must be accessible for review by the Department or EPA.
  3. Persons holding an approved bubble plan must submit to the appropriate regional office of the Department quarterly (January - March, April - June, July -September, October - December) summary calculations based on daily emission calculations of 1) actual emissions, 2) allowable emissions, 3) whether actual emission exceeded allowable emissions over the reporting period, and 4) whether the facility was in compliance with the emission baseline cap for each day/month. Said submittal must be made 30 days after the end of the quarter for which the report is being prepared.
  4. Any exceedance of the bubble emissions limitations must be recorded and reported to include the date of exceedance and quantity of excess emissions and reported to the Department by the thirtieth of the month following the close of the calendar quarter in which the exceedance occurred.
- (5) Enforcement.
- (a) The Department shall enforce the provisions of 310 CMR 7.00: *Appendix B* under applicable law and regulations.
  - (b) For purposes of 310 CMR 7.00: *Appendix B*(3), a violation of the emission limitation provisions of any permit issued or modified to reflect the creation of an emission reduction credit shall be enforced at the point of ERC creation.
- (6) Public participation. The following conditions apply to applications under 310 CMR 7.00: *Appendix B*:
- (a) For persons applying under 310 CMR 7.00: *Appendix B*(4) to comply with either 310 CMR 7.18 or 7.19, the emission control plan approved by the Department must be approved by EPA as a SIP revision if EPA has not approved 310 CMR 7.00 *Appendix B*(4) as a part of the Massachusetts SIP.
  - (b) For persons applying for Emission Reduction Credit under 310 CMR 7.00 *Appendix B*(3), the approval issued by the Department must be approved by EPA as a SIP revision if EPA has not approved 310 CMR 7.00 *Appendix B*(3) as a part of the Massachusetts SIP.
  - (c) The Department shall notify all applicants as to any administrative or technical deficiencies in the application or information submitted.
  - (d) After receipt of a technically complete application the Department shall:
    1. Make a proposed decision as to whether the application should be approved, approved with conditions, or a decision that the application should be disapproved.
    2. Make available, in at least one location in the region in which the facility is located, a copy of all non-confidential materials the applicant submitted, a copy of the proposed approval, and a copy or summary of other materials, if any, considered in making the proposed approval.
    3. For persons owning or operating a facility applying under either 310 CMR 7.00: *Appendix B*(3) or (4), the Department will publish a notice of public hearing in accordance with M.G.L. c. 30A. The Department shall allow for a 30 day public comment period following the published notice. After the public hearing on a proposed approval and the close of the public comment period the Department will issue a final approval or disapproval.
    4. Send a copy of the notice of public comment to the applicant, the EPA, and officials and agencies having jurisdiction over the community in which the facility is located, including local air pollution control agencies, chief executives of said community and any regional land use planning agency.

Appendix B: continued

5. Consider all public comments in making a final decision whether or not to approve the application. The Department shall make all comments available for public inspection in the same location(s) where the Department made available information relating to the proposed approval under 310 CMR 7.00: *Appendix B*(3) or (4).
6. Make a final decision as to whether the plan approval application should be approved, approved with conditions, or disapproved.
7. Notify the applicant and the EPA in writing of the final decision and make such notification available for public inspection at the same location where the Department made available information and public comments relating to the source.